

**BY ORDER OF THE COMMANDER
AIR MOBILITY COMMAND**

**AIR MOBILITY COMMAND
INSTRUCTION 10-502**



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Operations

**OPERATIONS RISK ASSESSMENT AND
MANAGEMENT SYSTEM (OPS RAMS)**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFD 10-21, Air Mobility Lead Command Roles and Responsibilities, and prescribes specific guidance/information for aircrews. Additionally, it establishes the Operations Risk Assessment and Management System (Ops RAMS) and outlines processes to collect multi-source data as well as identify trends to mitigate risk in all mobility activities, and make adjustments to policy and training in accordance with AFI 91-225, *Aviation Safety Programs*. This instruction applies to all Air Mobility Command (AMC) units. Other MAJCOMs and Air National Guard units are invited to voluntarily participate in the AMC Ops RAMS program. Send recommended changes to HQ AMC/A3TO, 402 Scott Drive Unit 3A1, Scott AFB, IL 62225-5302 on AF Form 847, *Recommendation for Change of Publication*, through command channels using the procedures outlined in AFI 11-215, *Flight Manuals Programs*. The Privacy Act of 1974 and the Paperwork Reduction Act of 1974 as amended in 1996 affect this instruction. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW AFD 33-3, *Information Management* and AFMAN 33-363, *Management of Records* and disposed of IAW the *Air Force Records Disposition Schedule (RDS)*.

Chapter 1

GENERAL INFORMATION

1.1. Purpose. This instruction establishes AMC policy for Operations Risk Assessment and Management System (Ops RAMS) and defines authority to guide proactive mishap reduction and operations/training improvement throughout the MAF. The overarching goal of Ops RAMS is to improve Mobility Air Forces (MAF) aviation operations in a way that increases effectiveness by ensuring safe mission accomplishment. Ops RAMS neither replaces current aircrew training and standardization and evaluation (stan/eval) oversight responsibilities nor takes the place of established processes such as safety investigations or Hazardous Air Traffic Reports (HATRs). Rather, Ops RAMS augments these existing processes by incorporating legacy and emerging data sources into a structure of regular review to adjust training, policy, and guidance to meet the dynamic nature of MAF aviation.

1.2. Waivers and Deviations. Deviations from this instruction are not authorized without the prior written approval from the applicable approving authority. Units will forward their request for a waiver to this instruction through their chain of command to HQ AMC/A3TO. The unit must include a detailed package supporting the request describing the requirements that are creating one or more problems/shortfalls and explain why a waiver is needed.

1.3. Information Availability. Ops RAMS information may be found on the Mobility Air Forces Operations (MAFOPS) website (<https://mafops.us.af.mil/rams>), Ops RAMS milBook site (https://www.milsuite.mil/book/community/spaces/amc/a3/a3t/ops_rams), and the Electronic Flight Bag (Air Crew Pubs > Aircrew_Pubs_Library > Master_Library_Verified > All_Global > OPS_RAM).

Chapter 2

OPS RAMS

2.1. Purpose. Two basic assumptions underpin Ops RAMS: First, aircrew, air traffic control, ground crew, etc. conduct themselves professionally and always strive for safe mission accomplishment. Second, people make mistakes. Ops RAMS provides an avenue for cultivating a Just Culture environment to address system issues and errors. Just Culture is based on trust by the aircrew that they will not be punished for honest mistakes and a clear understanding by unit leadership that Higher Headquarters (HHQ) is not usurping their authority or micro-managing their operations. All Ops RAMS information sources look for trends and significant single events – “outliers.” Ops RAMS seeks system-wide improvements. Information presented within Ops RAMS is aircrew/unit sanitized and is Mission Design Series (MDS)-specific only to promote full, honest, and open feedback at all times. Ops RAMS regularly meets with HQ AMC senior leaders to look at the MAF system and address/correct issues.

2.1.1. As stated in AFI 91-225, *Aviation Safety Programs*, data collected for or analyses generated from Aviation Safety Programs (ASP) shall not be used for monitoring personnel performance to initiate crew qualification downgrade (e.g., Q2 or Q3), decertification or to take adverse personnel action, including non-judicial (e.g., Letter of Counseling, Article 15), or judicial action, except as described in paragraph 2.1.2. below. Additional training programs or requirements are not themselves considered punitive or adverse.

2.1.2. AFI 91-225 further states that if data collected for, or analyses generated from, Aviation/Airman Safety Action Program (ASAP) reports indicates that the activity or event appears to involve an intentional disregard for safety, or that an intentional false statement has been made, the analysis or report no longer falls in the proactive aviation safety arena and the protections of paragraph 2.1.1. are not applicable. In these cases, commanders may utilize Military Flight Operations Quality Assurance (MFOQA) analyses and ASAP reports as necessary to investigate the event and are not precluded by the limitations of paragraph 2.1.1.

2.2. Structure. The structural elements of Ops RAMS are: Oversight Board, Trend Review and Action Committee (TRAC), Ops RAMS Branch, and Working Groups. The overarching concept of Ops RAMS includes the fusion of Training, Standardization/Evaluation, Safety and Tactics with cross-functional representation from the AMC staff, 18 AF, and 618 Air Operations Center (Tanker/Airlift Control Center (TACC)), other MAJCOMs, ANG, and AFRC staffs. Key relationship linkages and functions provide a framework for corporate governance structure and delineation of roles for program execution. A key principle in the framework is enhanced intra-organizational communication enabling the continuous search for overlapping indicators from multiple sources.

2.2.1. Oversight Board. The Oversight Board is chaired by, at a minimum, the AMC/A3. The board receives periodic updates from the TRAC while providing guidance and taking action as required. It is Ops RAMS’ mechanism to address issues to the AMC staff and 18 AF and provides senior-level guidance and oversight of aircraft modifications, software systems, policy implementation, force management and effectiveness of corrective actions.

2.2.1.1. Membership. Members include all AMC A-Staff Directors, AMC/SE, AMC/SG, 18 AF/CV, and 618 AOC/CV. Others may be invited to participate, including other MAJCOMs, ANG and AFRC staffs, Air Force Safety Center (AFSEC), wings, System Program Office (SPO), etc.

2.2.1.2. Timing. The Oversight Board meets as required.

2.2.2. TRAC. The TRAC reviews Working Group inputs and takes action as needed to improve operational efficiency and safety in coordination with other participating MAF MAJCOMs. Effectively, the TRAC does two things: focuses attention on MAF operations issues and validates actions taken.

2.2.2.1. Scope. The TRAC is the principal directive body of Ops RAMS. It receives briefings and recommendations from the Working Groups and provides return guidance to the same. Additionally, it makes decisions affecting policy, guidance, and training, manages action items, and establishes the Oversight Board's agenda.

2.2.2.2. Membership. The TRAC is chaired by the HQ AMC Vice Commander. Members include, but not limited to, representatives from AMC/A3, A4, A5, A6, SE, SG, 18 AF, 618 AOC (TACC), and AMC Wings. MAF MAJCOMs (ANG, AFRC, PACAF, USAFE-AFAFRICA, AETC), MAF Councils, Weapon System Councils (WSC), and MAF Weapons Instructor Courses (WIC)(ACC) are invited and encouraged to participate. Additional organizations may attend as required.

2.2.2.3. Timing. The TRAC convenes quarterly (at a minimum).

2.2.3. Ops RAMS Branch. The Ops RAMS Branch includes Military Flight Operations Quality Assurance (MFOQA), Aviation Safety Action Program (ASAP), and Crew Resource Management/Threat and Error Management (CRM/TEM). The branch acts as the overall Office of Primary Responsibility (OPR) to the AMC/CV on issues defined by the TRAC. Ops RAMS collects, consolidates, and reports data from the respective working groups directly to the TRAC Chairman. It ensures the working groups' actionable tasks are properly vetted, and it serves as an information-gathering conduit. A key principle in the framework of Ops RAMS is searching for overlapping trends and indicators from multiple sources to identify and mitigate risks. Ops RAMS will track action items for the TRAC and the Oversight Board.

2.3. Working Groups. Working groups are the core analysis and action bodies of Ops RAMS. The groups receive, accept, validate, and investigate inputs from a variety of information sources. They analyze the inputs and develop appropriate courses of action that may include trending for later analysis. The Working Groups report their findings, actions, and recommendations to the Ops RAMS Working Group which presents them to the TRAC for review, direction and action.

2.3.1. Working groups include MFOQA, ASAP, CRM/TEM and Aeromedical Evacuation Clinical working group. Additional working groups are established as required to address specific issues.

2.3.1.1. Working Groups are authorized and highly encouraged to collaborate, working in concert to identify and solve issues. The working groups manage their data sources to be as relevant and dynamic as possible, focusing on multi-data source trending,

information sharing, and action. Additional Working Groups are established by the TRAC as required to address MAF issues.

2.3.1.2. All MAF MAJCOMs are encouraged to participate in Working Group proceedings when possible.

2.4. Ops RAMS Working Group. The Ops RAMS Working Group consists of the Ops RAMS Branch Chief (Chairman), Ops RAMS Deputy Branch Chief, and Working Group Chairmen.

2.4.1. The Ops RAMS Working Group Chairman integrates the actions of the other Working Groups. The Ops RAMS Working Group chairman is responsible to the TRAC chairman (AMC/CV) for the daily operations of Ops RAMS.

2.4.2. The Ops RAMS Working Group Chairman will: Distribute an agenda and slides for all Ops RAMS Working Group Meetings, direct the actions of individual Working Groups, schedule the monthly Ops RAMS working group, TRAC and Oversight Board meetings, publish a “meet me” phone number on the MAFOPS website for each Working Group, and publish minutes for all TRAC and Oversight Board meetings.

2.5. Gatekeepers. Occasionally information collected through Ops RAMS processes, whether via MFOQA analysis or detailed in an ASAP report, will be insufficient to thoroughly understand the contributing factors to an event or hazard. In these instances, contact with the report submitter may provide additional insight and be beneficial or even essential to the hazard resolution process. If at any time intentional disregard for safety or an intentional false statement has been made, all submitter contact will cease.

2.5.1. MFOQA. Additional information will be obtained through safety channels, starting with AMC Safety. Unit safety personnel, acting in a gatekeeper capacity, will establish aircrew contact and ask the crew to contact the MFOQA analyst directly.

2.5.2. ASAP. If the submitter provides contact information Ops RAMS will serve as the Gatekeeper.

Chapter 3

MILITARY FLIGHT OPERATIONS QUALITY ASSURANCE (MFOQA)

3.1. Purpose. MFOQA is the analysis and trending of aircraft system and flight performance data to proactively enhance combat readiness through improvements in operations, maintenance, training, and safety functions.

3.1.1. MFOQA analysis requirements apply to all MAF aircraft that have data-recording capability.

3.1.2. MFOQA provides tools for commanders to: establish a baseline for normal operations; identify, mitigate, and monitor operational risks while detecting precursors to aviation mishaps; and identify operational inefficiencies.

3.2. Approach. In accordance with AFI 91-225, data generated from the MFOQA process shall not be used for monitoring aircrew performance or to initiate punitive or adverse action, as defined in paragraph 2.1.1. of this instruction. MFOQA analysis is performed for all MFOQA capable MAF airframes. Specific analysis outside of AMC-gained units is forwarded to the respective MAJCOM.

3.3. Process. The MFOQA process utilizes a routine mechanism for collecting aircraft data for aggregated trending analysis and identification of outliers. It provides leadership with timely, actionable analyses to increase awareness of operational flight risks. In addition, MFOQA enables operator training feedback, improves maintenance troubleshooting, and enhances readiness.

3.3.1. Data collection mechanics vary between individual platforms due to technological and mission differences. The following overarching characteristics should be incorporated into all MAF MFOQA employment concepts.

3.3.1.1. Routinely download recorded data. Utilize the most manpower-efficient method available to support a download frequency that provides timely data analysis with minimum mission impact.

3.3.1.2. Collect, store, and manage downloaded data. Data may be utilized at the unit level for MAJCOM-specific objectives, but shall be made available for MFOQA analysis.

3.3.1.3. Process and analyze data. Analysis results depend on the quality of data and desired depth of analysis. An HQ AMC analyst is provided through AFSEC to operate the MFOQA analysis system and conduct initial data validation for trend analysis.

3.3.1.4. Distribute analysis results. AMC/A3TO will provide routine analysis results to representatives from operations, training, maintenance, safety and engineering functions for review of MDS trends, and will implement adequate security measures to ensure individual privacy while maintaining appropriate chain-of-command authority.

3.4. Responsibilities.

3.4.1. AMC Ops RAMS will:

- 3.4.1.1. Provide local sponsorship, workspace, and logistical support for HQ AFSEC-provided MFOQA analysts.
- 3.4.1.2. Assist the AFSEC office to determine analyst manpower requirements, based on HQ AMC-level, centralized analysis for each MDS.
- 3.4.1.3. Establish data download, distribution and storage procedures for each MDS and coordinate download frequency.
- 3.4.1.4. Develop analytical processes to trend aggregated flight data for each MDS.
- 3.4.1.5. Develop procedures to resolve data inconsistencies with other MAJCOM users.
- 3.4.1.6. Establish protocols for analyst contact with maintenance personnel to initiate resolution of MFOQA-discovered discrepancies (e.g. over-g, flap overspeed, engine overtemp, etc.). At a minimum, Ops RAMS will maintain a point of contact in AMC/A4M who is familiar with MFOQA processes to facilitate reporting and documenting MFOQA-identified writeups.
- 3.4.1.7. Identify organizations that will benefit from MFOQA analysis results. Identify user needs and desires, and design a feedback process to ensure user needs are met as the program is implemented and matures.
- 3.4.1.8. Develop specific employment concepts by working with A3/4 Directorates to implement MFOQA analysis results within operational units.

3.4.2. Operations Group Training Offices will:

- 3.4.2.1. Include MFOQA analysis discussions at the semiannual Operations Group Training Review Panels. Units can request access to MFOQA analysis at: <https://mafops.us.af.mil/Rams/Mfoqa>.
- 3.4.2.2. Ensure squadron training offices receive the monthly MFOQA analysis.

3.5. MFOQA Working Group. The MFOQA Working Group collectively reviews and evaluates platform-wide trends, develops corrective measures to control adverse trends, and evaluates control measure effectiveness over time. The MFOQA Program Manager serves as the MFOQA Working Group Chairman, who is responsible to the Ops RAMS Working Group Chairman for MFOQA-related analysis. As such, the MFOQA Program Manager contributes to multi-source risk analysis within the Ops RAMS branch.

3.5.1. MFOQA Working Group Responsibilities.

- 3.5.1.1. Conduct regular reviews of the MFOQA process to identify improvement opportunities and whether revisions are required.
- 3.5.1.2. Lead the incorporation of data download and pre-analysis distribution processes into MAJCOM maintenance policies, ensuring the frequency of download and transmission of data are coordinated with AMC and support MFOQA requirements.

3.5.1.3. Support data analysis and distribution of results. Support wing-level MFOQA analyses which evaluate local trends, develop corrective measures to control local adverse trends, and evaluate control measure effectiveness over time.

3.5.1.4. Identify hazards using MFOQA and other data streams. Assist in the assessment of risks associated with the hazards, identify mitigation measures, and monitor effectiveness. Mitigation measures vary from modification of procedures, aircraft limitations or training syllabi, to simplifying aircrew, maintainer or commander awareness efforts. Groups or individuals implementing mitigation measures further utilize MFOQA analysis to monitor effectiveness and determine modifications or additional measures necessary, as required.

3.5.2. Membership. The MFOQA working group should include at a minimum: MDS representatives from AMC/A3T, AMC/A3V, AMC/A3D, AMC Flight Safety (SEF), AMC Ops RAMS MFOQA analysts. This working group can also include AFSEC, additional MAJCOMs, ANG, and AFRC staffs, AMC Ops RAMS personnel, AMC/A4, and other AMC staff members as required.

Chapter 4

AVIATION/AIRMAN SAFETY ACTION PROGRAM (ASAP)

4.1. Purpose. ASAP is an identity-protected, self-reporting system, and is an integral part of the Ops RAMS efforts to reduce mishaps and improve operations and training. ASAP is designed for Airmen to report information and concepts critical to resolving mishap precursors, and the sharing of this information across AF aviation communities. The information is used to reduce mishaps through operational, logistic, maintenance, training, and procedural enhancements. Do not report violations of the UCMJ or criminal statute via ASAP. The ASAP scoreboard and submission website is located at <https://www.usaf-mfoga.com>.

4.2. Approach. In accordance with AFI 91-225, data generated from the ASAP process shall not be used for monitoring personnel performance or to initiate punitive or adverse action, as defined in paragraph 2.1.1. of this instruction. If a report concerns a responsibility of another MAJCOM, it is passed to that MAJCOM staff for consideration and action. If an incident involves personal injury and/or aircraft damage, contact your unit or local safety office for appropriate guidance.

4.3. ASAP Working Group. De-identified ASAP submissions are reviewed by the AMC staff and other agencies, as required, via the Virtual Event Review Committee (VERC). VERC responses are reviewed monthly at the ASAP Working Group meeting where mitigation is developed and tasks assigned as necessary. The ASAP Program Manager serves as the ASAP Working Group Chairman, who is responsible to the Ops RAMS Working Group Chairman for ASAP-related analysis which can contribute to multi-source risk analysis within the Ops RAMS branch. The working group will focus on systemic MAF trend identification across multi-MDS platforms along with MDS specific trend events to provide enterprise wide risk mitigation recommendations to the TRAC.

4.3.1. ASAP Working Group Responsibilities.

4.3.1.1. Review ASAP submissions to determine trend analysis, significant outliers, coordination requirements, corrective actions, or risk mitigation opportunities.

4.3.1.2. Resolve and provide closure for complex or contentious ASAP submissions.

4.3.2. Membership. The ASAP working group will normally include at a minimum MDS representatives from AMC/A3T, AMC/A3V, AMC/A3D, AMC/SEF, AMC/A3A, and AMC Ops RAMS Trend Analysts. This committee can also include but is not limited to AMC Ops RAMS Working Group Chair members, other participating MAJCOMs, ANG, and AFRC staffs, AMC/A4, and other AMC Special Staff members.

4.4. Virtual Event Review Committee (VERC). The VERC is chaired by the ASAP Program Manager. Committee membership is fluid but should include, as a minimum, representatives from AMC/A3T, AMC/A3V, AMC/A3D, AMC/SEF, an AMC Ops RAMS analyst, MFOQA Program Manager, and any event-specific specialists necessary for resolution/action. The purpose of this committee is to review de-identified versions of ASAP submissions for validity, action, trending, and risk mitigation opportunities.

4.4.1. VERC responsibilities. The VERC will consider all relevant facts surrounding an incident and report those facts and their conclusions and recommendations to the TRAC

through the working group. The VERC will strive to make decisions based on consensus. Consensus does not require that all members believe that a particular decision or recommendation is the most desirable solution, but that results are within all members' range of acceptable solutions for that event in the best interest of safety. If a consensus is not reached, the VERC Chairman presents all options to the ASAP Working Group.

4.4.2. The VERC provides recommendations, normally within 10 business days after report receipt, for presentation at the ASAP Working Group. Recommendations could include changes to AMC operations and maintenance procedures/directives, modifications to training curriculums, etc., and will be forwarded to other MAJCOMs as necessary. Any recommended changes that affect MAJCOM operations or policy will be forwarded from the ASAP Working Group, through the TRAC, to the appropriate Directorate for consideration and comment.

4.5. ASAP Report Exclusion. Reports may be excluded based on, but not limited to, the following factors: Criminal activity, substance abuse, controlled substances, alcohol, intentional falsification, intentional disregard for safety, medical qualification, force protection, security violations, or information security issues.

Chapter 5

LINE OPERATIONS SAFETY AUDIT (LOSA)

5.1. Purpose. The goal of LOSA is to increase the overall safety of daily operations and optimize the system to work more safely and efficiently. LOSA contributes to this proactive approach to safety by seeking to discover common errors and threats aircrews face, and to determine the best practices employed by crews to mitigate and manage those threats and errors. With this information, AMC can make improvements to training, Technical Orders, Air Force Instructions, and processes. LOSA provides a rigorous and methodical assessment of the strengths and weaknesses in normal flight operations of MAF aircraft and aircrews. In conjunction with other proactive safety programs, LOSA provides diagnostic snapshots that AMC can use to assess the health of MAF operations and identify areas for improvement to increase safety margins and operational efficiency.

5.2. Background. LOSA is a voluntary crew observation program developed to gather safety-related data on environmental conditions, operational complexity, and human factors issues during every day flying operations. Federal Aviation Administration (FAA) Advisory Circular (AC) No. 120-90 dated 27 April 2006 was adopted as the standard by which LOSAs are conducted and is based on the Threat and Error Management (TEM) model. The TEM framework conceptualizes operational activity as a series of ongoing threats and errors that flight crews must manage to maintain adequate safety margins thus revealing operational threats and errors, and how they are mitigated or managed. LOSA provides a snapshot of operational performance which is then used to make proactive safety changes to prevent future accidents or incidents and improve efficiency.

5.3. Approach. Observations are conducted on aircrew members. Aircraft commanders or operational leadership (i.e., WG/CC, OG/CC or SQ/CC) may deny or terminate a planned observation at any time for any reason; however, participation is highly encouraged. Because a LOSA is an operations audit, it encompasses all areas involving operations that impact the aircrew from mission acceptance through completion. There are many factors before takeoff and after landing that affect a crew and their mission. Since these factors can be as detrimental to safety as those in the cockpit during flight, MAF LOSAs attempt to encompass as many of those additional system threats as possible. This is not a checkride; all crew information is de-identified and all observation data is maintained in a secure database. Following the collection and analysis of the observation data, AMC forms a Safety Investigation Board (SIB) to conduct a Class E Safety Investigation. The SIB uses the contractor's final report to produce findings and recommendations that will be briefed to AMC leadership (see 5.4.2.). These reports are protected under safety privilege similar to other safety investigations.

5.3.1. The LOSA program will take place worldwide, on all participating MAF aircraft (AFRC, ANG, PACAF, USAFE-AFAFRICA and chopped assets in the USAFCENT AOR) including air-land, air-refuel and air-drop missions in and outside of any AOR. Each LOSA observation period lasts approximately 6 to 8 weeks. These observation periods will be coordinated well in advance.

5.3.2. Memorandums of Understanding (MOU) to participating MAJCOMs are coordinated in advance but scheduling observations is the primary responsibility of the individual

observers. Due to the rigorous demands and time limit of a LOSA, each observer will conduct 12 to 14 observations during an operation. The MOU outlines an agreement between AMC and AFRC, ANG, PACAF, USAFE-AFAFRICA and USAFCENT for the sustainment of an AMC-sponsored MAF LOSA program. During LOSA observation periods, observers will be considered aircrew with regard to lodging, mess and crew transportation. Observers are granted complete access to observe flight deck and cabin operations on all MAF aircraft in Mission Essential Personnel (MEP) status in accordance with AFI 11-401. Prior to riding along on missions with remarks in the Form 59 restricting flight evaluation/observation, LOSA observers must gain approval from the on-duty Senior Controller prior to commencing his/her observation duties. LOSA observers are not considered part of the crew and will not provide input or assistance except in the case of safety of flight.

5.4. Roles and Responsibilities.

5.4.1. AMC Safety (SE). AMC/SE is the overall program manager for LOSA, responsible for scheduling the LOSA program for each applicable MDS and establishing the Class E Safety Investigation Board (SIB) following receipt of the Contractor's report. SIB open recommendations will be briefed at the semi-annual Mishap Review Panel (MRP) chaired by the AMC/CV.

5.4.2. Contractor. The contractor is an independent organization and an industry expert concerning TEM. One of the contractor's primary duties is to maintain a database of MAF LOSA aircraft observation data. The contractor is responsible to tailor the threat and error code book, conduct observer training, collect and review observations in real-time, and provide software tailored to each MAF crew position being analyzed. The contractor collects observer data, validates, verifies, analyzes the data, and provides a detailed report of the results to AMC/SE.

5.4.3. Observers. Observers should be current and qualified instructors or evaluators in their respective MDS. External observers (not qualified in the MDS being audited) are also desired. These observers are a control group for observations and add value by providing observations not constrained by preconceived notions of how a particular MDS operates. Observers will observe real-world missions and will avoid training and evaluations. They strive to observe a particular crew only once during the observation period. A single crew can be observed more than once by separate observers, but limit the number of repeat crew observations whenever possible. The Aircraft Commander is the final approval authority for LOSA observations. Though the observer may ride with a particular crew for multiple legs, it is recommended that only two of those legs should be observed for entry into the LOSA database. Observer TDY expenses are funded by HQ AMC/SE.

5.5. Data Verification. Once the observations are complete, the Data Verification Roundtable is scheduled. Representatives from AMC/A3 Standardization and Evaluation (A3V), AMC/A3 Training (A3T), AMC/SE, the Contractor, representatives from the observation team and any other representative deemed necessary will meet to verify the observation data. Subject matter experts analyze each observation collected against current manuals, technical orders, policies, procedures, and other applicable guidance. Their goal is to verify that events are correctly recorded and are consistent with policies and procedures. If the error cannot be substantiated as a violation of an approved procedure, it is removed from the data set.

5.6. Final Report. Following the Data Verification Roundtable, the contractor provides a thorough, independent analysis and submits a comprehensive final report to AMC/SE.

5.7. SIB. Following the Contractor's final report presentation, a SIB is formed to properly protect data and crew information during development of a final report. This team will consist of a select core of individuals from the original observer team, if available, and other qualified sources. They are responsible for interpreting the Contractor's final report, along with other relevant data sources, to produce a Class E final written report. This report includes actionable Findings and Recommendations that are presented to the AMC/CV and staff. The SIB's report, findings and recommendations are protected under Safety Privilege in accordance with AFI 91-204, Chapter 3 and released into the Air Force Safety Automated System (AFSAS).

Chapter 6

OTHER STRUCTURAL ELEMENTS

6.1. Structural Elements. Ops RAMS is a coordinated, proactive risk mitigation system. Ops RAMS relies on many data sources to integrate and cross reference with one another in an effort to enhance the proactive search of risk mitigation opportunities. The following is a list of known data sources. As other sources are identified, they are considered.

6.2. Data Sources.

6.2.1. Safety, OPR: AMC/SEF. The Safety POC to Ops RAMS is AMC/SEF, who analyzes data generated by all reportable mishaps, SIBs, Aviation Operations Risk Management (AvORM), HATRs, and other safety sources. AMC/SEF monitors LOSA recommendations and reports open recommendations at the Mishap Review Panel (MRP) IAW AFI 91-204.

6.2.2. Standardization and Evaluation, OPR: AMC/A3V. The Standardization and Evaluation POCs to Ops RAMS are an A3V Deputy and members from each A3V branch and appropriate branch experts from other A3 divisions as required. They analyze data from Standardization and Evaluation flight evaluation data, Unit Effectiveness Inspections (UEIs), the Fatigue Management Program, and the MAF Operations Conference (MAFOC).

6.2.3. Airspace and Airfield Operations, OPR: AMC/A3A. The Airspace and Airfield Operations POC to Ops RAMS analyzes data from a variety of sources for trend analysis and lessons learned. Sources include Air Traffic Control (ATC), airspace, and airfield incident reports (e.g. pilot deviation, navigation error, Federal Aviation Regulation (FAR) violation, communication loss, runway incursion, controlled movement area violation (CMAV)), ASAPs, HATRs, Global Decision Support System (GDSS) Airfield Detail and/or AMC Giant Report (includes Terminal Instrument Procedures (TERPS) reviews and airfield suitability assessments) and the Air Force Inspection System (AFI 90-201).

6.2.4. Training, OPR: AMC/A3T. The Training POC to Ops RAMS is the A3TP branch chief who analyzes data gathered from Training Review Panels, UEIs, MAFOC, and aircrew surveys. A3T conducts an annual Realistic Training Review Board (RTRB) to highlight and address aircrew training issues.

6.2.5. Crew Resource Management/Threat and Error Management (CRM/TEM), OPR: AMC/A3TO. The CRM/TEM Program Manager is a member of the Ops RAMS Branch who participates in all working groups and collects/analyzes AMC Form 4031 data to identify CRM/TEM trends.

6.2.6. Aeromedical Evacuation (AE), OPRs: AMC/A3VM and AMC/SGKO. AE POC to Ops RAMS is the AE Clinical Working Group, co-chaired by AMC/SGKO and AMC/A3VM. This working group analyzes information obtained from AE activities that pertain to the operational nature of AE efforts. Ops RAMS is not the appropriate venue to address clinical and/or patient care and those issues should not be shared in the Ops RAMS processes so as to not violate 10 U.S. Code Sec 1102 and Health Information and Portability Accountability Act (HIPAA) regulations.

JERRY P. MARTINEZ, Major General, USAF
Director of Operations

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 10-21, *Air Mobility Lead Command Roles and Responsibilities*

AMCI 10-202 Vol 6, *Mission Management and Reliability Reporting System (MMRRS)*

AFI 11-202 Vol 3, *General Flight Rules*

AFI 11-207, *Combat Aircraft Delivery*

AMCI 11-208, *Tanker/Airlift Operations*

AFI 11-2MDS Vol 3, *MDS Operations Procedures (C-5, C-17, C-130, etc.)*

AFI 11-2AE Vol 3, *Aeromedical Evacuation Operations Procedures*

AFI 11-255 Vol 3, *Integrated Flight Management*

AFPD 90-13, *Military Flight Operations Quality Assurance*

AMCI 90-903, *Aviation Operational Risk Management (ORM) Program*

AMCI 90-801, *Shift and Endurance Management*

AFI 90-802, *Risk Management*

AFI 90-1301, *Implementing Military Flight Operations Quality Assurance, 1 Apr 2008*

AFPAM 90-803, *Risk Management (RM) Guidelines and Tools*

AFI 91-202, *The US Air Force Mishap Prevention Program*

AFI 91-204, *Safety Investigations and Reports*

AFI 91-225, *Aviation Safety Programs*

AFPAM 91-216, *USAF Safety Deployment and Contingency Pamphlet*

FAA Circular (AC) 120-66B, 15 Nov 2002, *Aviation Safety Action Program (ASAP)*

FAA Advisory Circular (AC) 120-90, 27 Apr 2006, *Line Operations Safety Audits*

MIL-STD-882E, 11 May 2012, *DOD Standard Practice System Safety*

SECDEF Memorandum, 11 Oct 2005, *Military Flight Operations Quality Assurance (MFOQA) Process Implementation*

Adopted Forms

AF Form 651, Hazardous Air Traffic Report (HATR)

AF Form 847, Recommendation for Change of Publication

AF Form 1067, Modification Proposal

AMC Form 97, AMC In-Flight Emergency and Unusual Occurrence Worksheet

AMC Form 54, Aircraft Commander's Report on Services/Facilities

Abbreviations and Acronyms

AE—Aeromedical Evacuation

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFSEC—Air Force Safety Center

AFRC—Air Force Reserve Command

ANG—Air National Guard

ASAP—Aviation/Airman Safety Action Program

AvORM—Aviation Operational Risk Management

CRM—Crew Resource Management

FAA—Federal Aviation Administration

GDSS—Global Decision Support System

LOSA—Line Operations Safety Audit

MAF—Mobility Air Forces

MAFOC—Mobility Air Forces Operations Conference

MAFOPS—Mobility Air Forces Operations

MAJCOM—Major Command

MDS—Mission Design Series

MFOQA—Military Flight Operations Quality Assurance

OPR—Office of Primary Responsibility

Ops RAMS—Operations Risk Assessment and Management System

PACAF—Pacific Air Forces

SECDEF—Secretary of Defense

SEF—Flight Safety

SIB—Safety Investigation Board

TACC—618 Air Operations Center: Tanker/Airlift Control Center

TEM—Threat and Error Management

TRAC—Trend Review and Action Committee

UAS—Undesired Aircraft State

UEI—Unit Effectiveness Inspection

USAFE-AFAFRICA—United States Air Forces in Europe-Air Forces Africa

VERC—Virtual Event Review Committee

WIC—Weapons Instructor Course

WSC—Weapons System Council

Terms

Adverse/Punitive Action—Any administrative, non-judicial action (e.g. Letter of Counseling, Article 15), directed downgrade, or decertification.

Errors—Actions *or* inactions that lead to deviations from organizational or operational intentions or expectations. Unmanaged and/or mismanaged errors frequently lead to undesired aircraft states (UAS). Errors in the operational context thus tend to reduce the margins of safety and increase the probability of an undesirable event.

Just Culture—A culture in which front line operators or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, intentional violations, and destructive acts are not tolerated. Just Culture focuses on improving system designs and employee procedures to include: better system operations; creating redundant safety systems to trap or mitigate errors; pre-identifying high-risk operations; and leadership actions designed to limit at-risk behaviors.

Outliers—A statistical observation that lies outside the overall pattern of a distribution or range of values and could be a precursor to an accident or mishap. An outlier should be investigated to determine if any actions should be taken to mitigate an accident.

Risk—The probability and severity of loss or adverse impact from exposure to various hazards.

Threat and Error Management (TEM)—An academic advancement within CRM based on Human Factors research that focuses on a systems approach that builds multiple layers of defense, logically designed to identify, prevent, and trap threats and/or mitigate inevitable human errors.

Threats—Conditions, events, or errors that occur beyond (outside) the influence of the line personnel. Threats increase operational complexity and must be managed to maintain safety margins.

Undesired Aircraft State—Operational conditions where an unintended situation results in a reduction in margins of safety. They are a result of ineffective Threat and Error Management practices. This reduced margin of safety is considered the last stage before an incident or accident occurs.

Intentional Disregard—When a crew makes a conscious decision to take actions or handle the aircraft in a manner not consistent with directives or flight manual guidance for purposes other than preservation of the aircraft or personnel.

Attachment 2**SAMPLE LOSA MEMORANDUM OF UNDERSTANDING****COMMAND MEMORANDUM OF UNDERSTANDING FOR LINE OPERATIONS
SAFETY AUDIT (LOSA)****MEMORANDUM OF UNDERSTANDING
AMONG**

**THE DIRECTOR OF OPERATIONS, AIR MOBILITY COMMAND,
THE DIRECTOR OF OPERATIONS, AIR FORCE RESERVE COMMAND,
THE DIRECTOR OF OPERATIONS, AIR NATIONAL GUARD,
THE DIRECTOR OF OPERATIONS, PACIFIC AIR FORCES,
THE DIRECTOR OF OPERATIONS, US AIR FORCES IN EUROPE-AIR FORCES AFRICA,
THE COMMANDER, US AIR FORCES CENTRAL
FOR COMMAND RESPONSIBILITIES AND SCOPE OF
MAF LINE OPERATIONS SAFETY AUDIT (LOSA) PROGRAM**

1. Subject. This Memorandum of Understanding outlines an agreement between AMC and AFRC, ANG, PACAF, USAFE-AFAFRICA and USAFCENT for the sustainment of an AMC-sponsored Mobility Air Forces (MAF) Line Operations Safety Audit (LOSA) program. Analysis and lessons learned will be shared with affected MAJCOM leadership and mobility aircrew through appropriate safety channels.

2. Background. Previous LOSA operations produced significant findings and actionable recommendations which AMC, as lead command, is addressing. LOSA is a voluntary observation program developed to gather safety-related data on environmental conditions, operational complexity, and human factors issues during every day flying operations. LOSAs are based on the Threat and Error Management (TEM) model to conceptualize operational activity as a series of ongoing threats and errors that flight crews must manage to maintain adequate safety margins; thus, revealing operational threats, errors, and how they are mitigated or managed. This proactive safety program was adopted by AMC and will be executed on the entire MAF fleet on a rotational basis. LOSA reports are handled as Class E safety investigations, which means crew actions along with follow-on findings and recommendations are granted safety privilege.

AMC awarded a contract to an independent contractor for data collection and analysis on all MAF aircraft on a rotational basis. Observers will consist of active duty, Air Force Reserve Command and Air National Guard crewmembers in the rank of Captain to Lieutenant Colonel. The observers will be current and qualified MAF crew members and will be trained by the contractor to collect all operational data to support the audit. No civilians will participate in the observation phase. AMC will fund the entire operation.

Observers do not administer checkrides, no crewmember names are recorded, all data is de-identified, and reports are sent directly from observers to the contractor for analysis. After the data is collected and analyzed, the contractor delivers an out-brief to the AMC/CV that captures operational threats, errors, and management actions observed. AMC will then form a Safety

Investigation Board (SIB) to thoroughly evaluate each “finding” and propose recommendations for implementation to improve MAF operations. This program has full AMC senior leadership support.

3. Purpose. The purpose of the LOSA program is to increase the overall safety of daily MAF operations and optimize the entire mobility system to work more safely and efficiently. LOSAs will work in concert with the Aviation/Airman Safety Action Program (ASAP) and Military Flight Operations Quality Assurance (MFOQA) programs to produce a proactive safety culture.

4. Scope. The LOSA program will take place worldwide, on all MAF aircraft (AFRC, ANG, PACAF, USAFE-AFAFRICA and chopped assets in the USAFCENT AOR) including air-land, air-refuel and air-drop missions in and outside of any AOR. Each LOSA lasts approximately 6 to 8 weeks and each observation period will be coordinated well in advance. AMC will re-coordinate this MOU throughout the 5-year contract period as necessary.

5. Understandings, Agreements and Responsibilities. During LOSA observation periods, observers will be considered aircrew with regard to lodging, mess and crew transportation. Observers will be granted complete access to observe flight deck and cabin operations on all MAF aircraft in mission essential personnel (MEP) status in accordance with AFI 11-401. The observers, as coordinated by the TACC Senior Controller, will be granted MEP status on 618 AOC TACC-controlled flights and will have MEP letters coordinated with other MAJCOMs or Component Commands (USAFCENT) for their controlled missions. Prior to riding along on missions with remarks in the Form 59 restricting flight evaluation/observation, LOSA observers must gain approval from the on-duty Senior Controller prior to commencing his/her observation duties. Observers will never displace primary crewmembers and when possible, will coordinate their observations in advance with the aircraft commander, the local MAF command and/or control element. The observations are strictly on a volunteer basis and the Aircraft Commander or operational leadership (i.e. WG/CC, OG/CC or SQ/CC) may deny or terminate a planned observation at any time, for any reason. The intent is to capture “natural crew performance” and if extenuating or Aviation Operations Risk Management (AvORM) circumstances inhibit a quality observation, it will be rescheduled on another mission.

6. Effective Date, Periodic Review, Modification and Termination. This agreement is effective on the date of the last signature and will remain in effect until rescinded, reviewed or suspended. This agreement may be cancelled at any time by mutual agreement with at least 30 days’ advance written notice. Modifications will be processed through AMC/A3.

7. For LOSA Observations Occurring in USAFCENT AOR Only. Observers will comply with all applicable requirements contained in the USAFCENT Reporting Instructions prior to leaving home station. A concerted effort will be made to stagger the number of observations at each location as not to overwhelm the system and observers will collect all required observations in as little time as possible.